

Imperial-American Management Company

MAIL ROOM

71 MAR 25 9 47

DHC-81
Due Apr 14

March 24, 1971

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Re: Request for Exception to Rule 303-A
Down-Hole Commingling - per Rule 303-C
Royalty Holding Lease, Well No. 1
Drinkard and Wantz Abo Pools
Lea County, New Mexico

Gentlemen:

Imperial-American Management Company respectfully requests administrative approval under the provisions of Order No. R-3845 to commingle, in the well bore, oil production from the Drinkard Pool and the Wantz Abo Pool which are dually completed in our Royalty Holding, Well No. 1, located in Unit B, Section 25, T-21-S, R-37-E, Lea County, New Mexico.

On initial tests, it was determined that the Drinkard zone was too weak to justify the expense of a pump unit, engine, and rod string. A Baker Lok-Set Packer was set @ 6950' (below the Drinkard and above the Abo) and the Wantz Abo zone was put on pump. The Drinkard zone was left open in the annulus but production equipment was not run for it. A permit for dual completion was never requested for this well.

We believe that this well qualifies for administrative approval of downhole commingling under the provisions of Rule 303-C. Both zones are classified as oil zones. The deepest perforation in the lower zone is at 7437' in this well. We attach Form C-116 showing the latest production test from the Wantz Abo and the last test information available from the Drinkard zone before it was isolated. These tests indicate the production rates for both oil and water fall within the limits specified by Rule 303-C. We also attach a copy of our production decline curve for the Wantz Abo Pool. The Wantz Abo is presently being artificially lifted with a rod pump. The Drinkard was tested on pump before being isolated. Therefore, a rod pump will be utilized after commingling.

Since the Drinkard zone has not been producing, we can not obtain a water sample from that zone; however, we have had water samples collected from a nearby well producing from these zones and had these samples checked for compatibility by

New Mexico Oil Conservation Commission
March 24, 1971
Page 2

Re: Request for Exception to Rule 303-A
Down-Hole Commingling - per Rule 303-C
Rosa Lee Federal Lease, Well No. 1
Drinkard and Wantz Abo Pools
Lea County, New Mexico

Baroid. Copies of these offset well water reports are attached. The reports indicate there will not be an instability problem caused by mixing water from the Drinkard and Wantz Abo Pools.

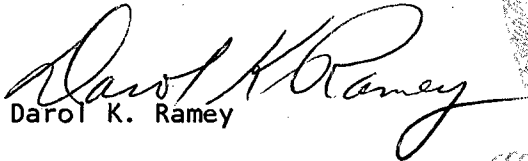
We also attach a data sheet on which we have indicated our estimates of the current bottom hole pressures of these zones and a calculation showing that the commingled production will not have less value than the individual streams sold separately.

Ownership of the production from both zones is common as to royalty, overriding royalty, and working interests.

This lease is on Fee land. Copies of this application are being submitted to the offset operators shown on the attached sheet.

Very truly yours,

IMPERIAL-AMERICAN MANAGEMENT COMPANY


Darol K. Ramey

DKR:lb
Attachments

LIST OF OFFSET OPERATORS

Imperial-American Management Company
Royalty Holding Lease
Lea County, New Mexico

Gulf Oil Co. - US
P. O. Box 1938
Roswell, New Mexico

Mobil Oil Corporation
P. O. Box 1810
Hobbs, New Mexico

Texas Pacific Oil Co., Inc.
P. O. Box 1069
Hobbs, New Mexico



NEW MEXICO OIL CONSERVATION COMMISSION
GAS - OIL RATIO TESTS

C-116
Revised 1-1-65

Operator Imperial-American Management Co.		Pool *See Below		County Lea												
Address 507 Midland Savings Bldg., Midland, Texas 79701				TYPE OF TEST - (X) <input checked="" type="checkbox"/> TEST - (X) <input type="checkbox"/> Scheduled <input type="checkbox"/> Completion <input type="checkbox"/> Special <input checked="" type="checkbox"/>												
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU.FT./BBL.
		U	S	T	R							WATER BBLs.	GRAV. OIL	OIL BBLs.	GAS M.C.F.	
<u>DRINKARD POOL</u>																
Royalty Holding	1	B	25	21	37	8-21-69	P	Open	25	--	24	15	38.5	3	10.9	3635
		Last test available on this zone.														
<u>WANTZ ABO POOL</u>																
Royalty Holding	1	B	25	21	37	3-10-71	P	Open	25	14	24	10	39.5	10	20.5	2050
		*SPECIAL TEST - REQUEST FOR DOWN-HOLE COMMINGLING														

No well will be assigned an allowable greater than the amount of oil produced on the official test.

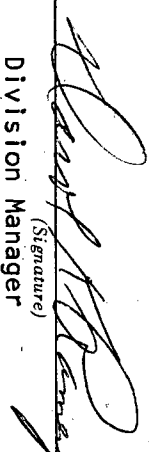
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

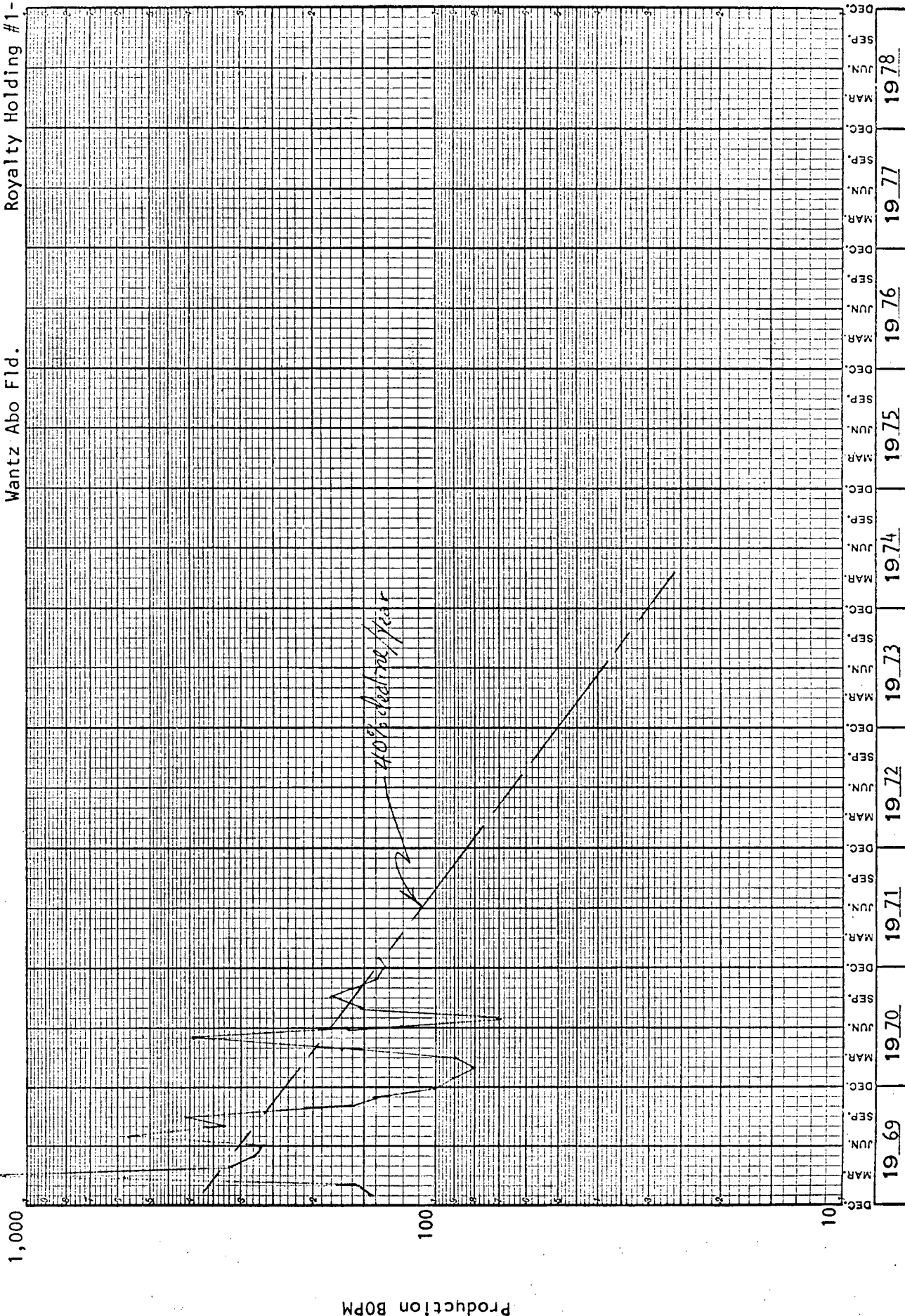
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.


(Signature)
Division Manager

March 24, 1971
(Date)

Wantz Abo Fld. Royalty Holding #1-8





BAROID DIVISION
NATIONAL LEAD COMPANY
PETROLEUM INDUSTRY CHEMICALS

WATER ANALYSIS TEST REPORT

SHEET NUMBER

COMPANY

Imperial American Management Co

DATE

9-9-70

FIELD

Eunice

COUNTY OR PARISH

Lea

STATE

New Mexico

LEASE OR UNIT

Gulf's Sarkey

WELL(S) NAME OR NO.

1

WATER SOURCE (FORMATION)

Abo

DEPTH, FT.

BHT, F

SAMPLE SOURCE

Well Head

TEMP, F

WATER, BBL/DAY

OIL, BBL/DAY

GAS, MMCF/DAY

TYPE OF OIL

API GRAVITY

0

TYPE OF WATER

☒

PRODUCED WATER

☐

INJECTION WATER

OTHER

WATER ANALYSIS PATTERN

(NUMBER BESIDE ION SYMBOL INDICATES me/l * SCALE UNIT)

Na ⁺ 20	15	10	5	0	5	10	15	20 Cl ⁻
Ca ⁺⁺								HCO ₃ ⁻
Mg ⁺⁺								SO ₄ ⁼
Fe ⁺⁺⁺								CO ₃ ⁼

DISSOLVED SOLIDS

CATIONS

Total Hardness

me/l *
952

mg/l *
60129

Sodium, Na⁺ (calc.)

2613

13800

Calcium, Ca⁺⁺

690

3196

Magnesium, Mg⁺⁺

262

55

Iron (Total), Fe⁺⁺⁺

2.5

NT

ANIONS

Chloride, Cl⁻

3540

126000

Sulfate, SO₄⁼

20

950

Carbonate, CO₃⁼

6.5

15

Bicarbonate, HCO₃⁻

6.8

415

Hydroxyl, OH⁻

Sulfide, S⁼

Phosphate - Meta, PO₃⁼

Phosphate - Ortho, PO₄⁼

DISSOLVED GASES

Hydrogen Sulfide, H₂S

mg/l *

Carbon Dioxide, CO₂

mg/l *

Oxygen, O₂

mg/l *

PHYSICAL PROPERTIES

pH

7.4

Eh (Redox Potential)

MV

Specific Gravity

Turbidity, JTU Units

Total Dissolved Solids (Calc.)

mg/l *

Stability Index @

F

@

F

CaSO₄ Solubility @

F

@

F

Max. CaSO₄ Possible (Calc.)

mg/l *

Max. BaSO₄ Possible (Calc.)

mg/l *

Residual Hydrocarbons

ppm (Vol/Vol)

SUSPENDED SOLIDS (QUALITATIVE)

Iron Sulfide ☐

Iron Oxide ☐

Calcium Carbonate ☐

Acid Insoluble ☐

* NOTE: me/l and mg/l are commonly used interchangeably for epm and ppm respectively. Where epm and ppm are used, corrections should be made for specific gravity.

REMARKS AND RECOMMENDATIONS:

PIC ENGINEER

Cliff G. Gardner

DIST. NO.

21

ADDRESS

Eunice, New Mexico

OFFICE PHONE

393-8622

HOME PHONE

394-2421

TESTED BY

Cliff G. Gardner

DATE

9-9-70

DISTRIBUTION

☐ CUSTOMER

☐ PIC ENGINEER OR

☐ PIC LAB

☐ AREA OR

☐ DISTRICT OFFICE

☐ PIC SALES SUPERVISOR



BAROID DIVISION
NATIONAL LEAD COMPANY
PETROLEUM INDUSTRY CHEMICALS

WATER ANALYSIS TEST REPORT

SHEET NUMBER

COMPANY

Imperial American Management Co

DATE

9-9-70

FIELD

Eunice

COUNTY OR PARISH

Lea

STATE

New Mexico

LEASE OR UNIT

Gulf's Sarkey

WELL(S) NAME OR NO.

2

WATER SOURCE (FORMATION)

Drinkard

DEPTH, FT.

BHT, F

SAMPLE SOURCE

Well Head

TEMP, F

WATER, BBL/DAY

OIL, BBL/DAY

GAS, MMCF/DAY

TYPE OF OIL

API GRAVITY

0

TYPE OF WATER

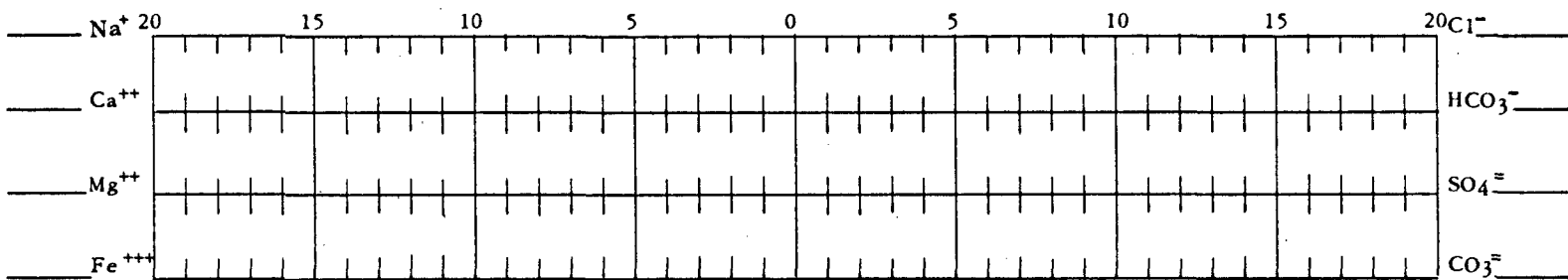
☒ PRODUCED WATER

☐ INJECTION WATER

OTHER

WATER ANALYSIS PATTERN

(NUMBER BESIDE ION SYMBOL INDICATES me/l * SCALE UNIT)



DISSOLVED SOLIDS

CATIONS

Total Hardness

me/l *

866

mg/l *

62675

Sodium, Na⁺ (calc.)

2725

62675

Calcium, Ca⁺⁺

614

12280

Magnesium, Mg⁺⁺

252

3074

Iron (Total), Fe⁺⁺⁺

5.0

100

ANIONS

Chloride, Cl⁻

3570

127,000

Sulfate, SO₄⁼

18

875

Carbonate, CO₃⁼

NT

Bicarbonate, HCO₃⁻

7.5

457

Hydroxyl, OH⁻

Sulfide, S⁼

NT

Phosphate - Meta, PO₃⁼

Phosphate - Ortho, PO₄⁼

DISSOLVED GASES

Hydrogen Sulfide, H₂S

mg/l *

Carbon Dioxide, CO₂

mg/l *

Oxygen, O₂

mg/l *

PHYSICAL PROPERTIES

pH

7.1

Eh (Redox Potential)

MV

Specific Gravity

Turbidity, JTU Units

Total Dissolved Solids (Calc.)

mg/l *

Stability Index @

F

@

F

CaSO₄ Solubility @

F

@

F

Max. CaSO₄ Possible (Calc.)

mg/l *

Max. BaSO₄ Possible (Calc.)

mg/l *

Residual Hydrocarbons

ppm (Vol/Vol)

SUSPENDED SOLIDS (QUALITATIVE)

Iron Sulfide ☐ Iron Oxide ☐ Calcium Carbonate ☐ Acid Insoluble ☐

REMARKS AND RECOMMENDATIONS:

A sample of the water from the Abo formation, from the well head, was not available, but using water from the Abo of well #1 indicates that comingling will not present a problem.

* NOTE: me/l and mg/l are commonly used interchangeably for ppm and ppm respectively. Where ppm and ppm are used, corrections should be made for specific gravity.

PIC ENGINEER

Cliff G. Gardner

DIST. NO.

21

ADDRESS

Eunice, New Mexico

OFFICE PHONE

393-8622

HOME PHONE

394-2421

TESTED BY

Cliff G. Gardner

DATE

9-9-70

DISTRIBUTION

☐ CUSTOMER

☒ PIC ENGINEER OR

☐ PIC LAB

☐ AREA OR

☐ DISTRICT OFFICE

☒ PIC SALES SUPERVISOR

DATA SHEET

Request for Down-Hole Commingling
Imperial-American Management Co.
Royalty Holding No. 1

I. Estimated Bottom Hole Pressure

A. Drinkard Pool Completion

This zone has not been producing in this well. Offset wells have exhibited performance which we believe indicates the following:

Estimated Operating BHP - 200 psi
Estimated Static BHP - 600 psi

B. Wantz Abo Pool Completion

Lower zone, cannot obtain fluid levels.
Pressure is low enough to limit pump efficiency to 25%.

Estimated Operating BHP - 300 psi
Estimated Static BHP - 800 psi

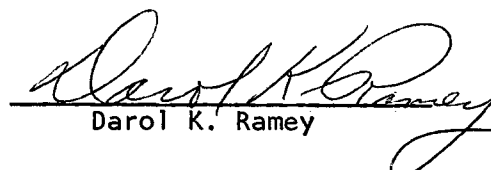
II. Value of Commingled Production

Oil from the Wantz Abo is being sold to The Permian Corporation; the commingled production will also be sold to them. The price is based on Atlantic Richfield's posting for West Texas-New Mexico intermediate grade crude, with a top price of \$3.56/bbl for 40 deg. API and a 2¢/degree price differential for each degree below 40 degree API.

The Drinkard zone oil normally is 38.5 deg. API with a price of \$3.52/bbl. The Wantz Abo oil is normally 39.5 deg. API with a price of \$3.54/bbl. At the test rates of production, the gravity of the mixture should be at least 39.0 deg. API and receive a price of \$3.54/bbl.

Drinkard	- Avg. price \$3.52/bbl. x 3 BOPD equals	\$10.56/day
Wantz Abo	- Avg. price \$3.54/bbl. x 10 BOPD equals	<u>35.40/day</u>
		\$45.96/day
Mixture	- Avg. price \$3.54/bbl. x 13 BOPD equals	\$46.02/day

No loss in value of product should result from commingling this production in the well bore.


Darol K. Ramey

507 Midland Savings Building - Midland, Texas 79701 - 945-684-8244

Cable Address - IMPAM